

Halon-1301 Analysis Parameters - Shuttle Use Only



CHARACTERISTIC	PRODUCED/DELIVERED (Shuttle Only)
Specification: KSC-SPEC-P-0028	
CF ₃ Br, Mole Percent, Min.	99.6
Other Halocarbons, Mole Percent, Max.	0.4
Acidity ppm (by wt.) Max.	3.0
Halogen Ion	Pass Test
Fixed Gases in Vapor Phase of Shipping Cylinder, Expresses as Air, Percent by Vol.	1.5
Boiling Point, °C at 760 mm Hg	-57.75
Boiling Range, °C, 5 to 85 Percent Distilled	* 2.00
High Boiling Impurities, grams/100 ml, Max.	0.05
Suspended Matter or Sediment	None Visible

Related Links: [NASA Agency-wide Halon 1301 Bank Management Plan](#)

[NASA-wide Halon Bank Team](#)

Note: A modification to the Mil-spec by permitting a +/- 2.00 °C boiling range. Original range was 0.3 which proved to be too tight in operational use.

Usage & Other Data: Halon-1301 is chemically bromotrifluoromethane. It is used in flight-critical ground support systems as a fire extinguishing agent. Halon-1301 is an ozone-depleting halocarbon compound whose production was ceased in 1995. KSC maintains a "Halon Bank" to support the Shuttle Program. Halon-1301 is stored in "one-ton" cylinders. A zero-loss transfer re-fill system is used to recover, empty and/or re-fill various fire-system cylinders. Halon-1301 is accepted from down-moded systems from other NASA locations by KSC for beneficial use by the Shuttle Program.

Proper Shipping Name and Container Markings:

49 CFR 172.101 Hazardous Materials Table

Sym-bols	Hazardous material descriptions & proper shipping	Hazard Class or Division	Identifi-cation numbers	PG	Label Codes	Special Provision	Packaging (173.***)			Quantity Limitations		Vessel Stowage	
							Excep-tions	Non Bulk	Bulk	Passenger aircraft/	Cargo aircraft	Loca-tion	Other

	names									rail	only		

DOT Hazardous Material Codes and Regulations will explain the letters and numbers.

Sample Table

Bromotrifluoromethane, or Refrigerant gas, R13B1	2.2	UN1009		2.2		Packaging (173.***)			Quantity Limitations		Vessel Stowage	
						306	304	314, 315	75 kg	150kg	A	



Markings for a "bulk container" (over 119 gallon capacity) with 12"-sided placards. An authorized variance would have the identification number replace the words on the primary hazard placard (with the number at the bottom corner). Non-bulk containers would use the similar 3"-sided labels and have "UN(ID#)" nearby. The proper shipping name would also appear near the labels or placards.



Updated: October 5, 2006